

REMARKS

Claims 1-15 and 23 are pending in this application. Applicant appreciates the Office Action's indication that claims 7, 10 and 12-15 contain allowable subject matter.

By this Amendment, claim 1 is amended for better clarity. Claims 16-22 and 24-30 are canceled in view of the Restriction Requirement.

The Office Action rejects claims 1-6, 8, 11 and 23 under 35 U.S.C. §103(a) over U.S. Patent No. 6,087,719 to Tsunashima; and rejects claim 9 under 35 U.S.C. §103(a) over Tsunashima in view of U.S. Patent No. 6,608,371 to Kurashima et al.¹ These rejections are respectfully traversed.

The Office Action asserts that Tsunashima renders obvious the subject matter recited in claim 1. However, Tsunashima does not disclose or suggest a through-hole continuously extending through a first and a second semiconductor substrate, as recited in claim 1.

Tsunashima discloses a method for aligning semiconductor chips that each have an alignment hole 5. See Fig. 1 and col. 4, lines 16-27. The alignment hole 5 is covered by an interconnecting layer 3 that is made of a material which transmits light. See Fig. 1 and col. 4, lines 28-32. Thus, although each aligning semiconductor chip has an alignment hole, the alignment hole does not extend from one semiconductor chip to another semiconductor chip, because of the interconnecting layer 3 between the aligning semiconductor chips. Therefore, the alignment hole 5 does not continuously extend from one semiconductor chip to another. Hence, Tsunashima does not disclose or suggest a through-hole continuously extending through a first and a second semiconductor substrate, as recited in claim 1.

¹ The Office Action contains a typographical error regarding the first named inventor of this patent.

Furthermore, Tsunashima does not disclose or suggest a semiconductor substrate that has an optical part, the optical part being fixedly formed on a surface of the first semiconductor substrate, as recited in claim 1.

In particular, Tsunashima discloses a laser light source 11 and a photodetector 13 that are used for aligning the semiconductor chips. See Fig. 1 and col. 4, line 65 - col. 5, line 8. However, the laser light source 11 and the photodetector 13 are not part of any of the semiconductor chips. Therefore, Tsunashima does not disclose or suggest a first semiconductor substrate having an optical part and a first pad, the optical part being fixedly formed on a surface of the first semiconductor substrate, as recited in claim 1.

Kurashima does not disclose or suggest a through-hole continuously extending through a first and a second semiconductor substrate, or an optical part that is fixedly formed on the surface of a first semiconductor substrate. Therefore, Kurashima does not supply the subject matter lacking in Tsunashima.

For at least the above reasons, Tsunashima and Kurashima, either individually or in combination, do not disclose or suggest the subject matter recited in claim 1, and claims 2-6, 8, 9, 11 and 23 depending therefrom. Accordingly, withdrawal of the rejection of claims 1-6, 8, 9, 11 and 23 under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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